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Tadao Nakaya

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EXAMINER

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ART UNIT

PAPER NUMBER

1774

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Art Unit: 1774

DETAILED ACTION

1. Applicant's amendment and accompanying remarks filed October 21, 2005 have been acknowledged.
2. Examiner acknowledges amended claims 1-2 and 16.

Claim Rejections - 35 USC § 102

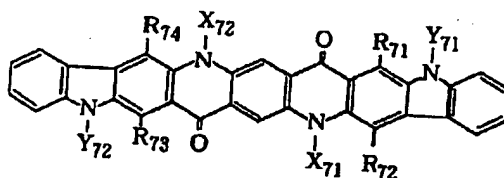
3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by JP 04-224579.

The Japanese reference discloses quinacridone derivative compounds such as formula 1-G

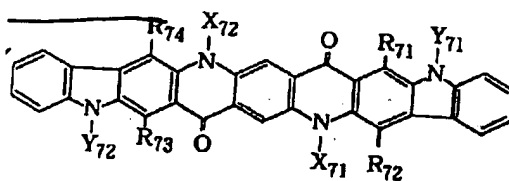


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Additionally, the Japanese reference reads on the instant claims when Y_{71} and Y_{72} are a C_4 alkyl group, X_{71} and X_{72} are a hydrogen atom and an alkyl straight chain (which can include an alkyl group with 4 to 6 carbon atoms, respectively and R_{71-74} are each a hydrogen atom (see page 5, paragraph 0030). The compound of the Japanese reference discloses the same compound as recited in instant claim 1. Therefore, it would be expected that the compound of the Japanese reference emit white light upon application of electromagnetic energy.

5. Claims 1 and 16-24 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 11-087059.

The Japanese reference discloses an organic luminescent element comprising a luminous layer sandwich between a pair of electrodes. Additionally, the reference discloses that the luminous layer comprises a compound such as formula 1-G



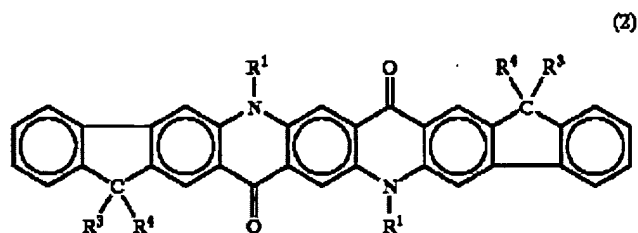
The Japanese reference reads on the instant claims when Y_{72} and Y_{71} are a hydrogen atom and an alkyl straight chain with 1 to 8 carbon atoms, respectively; X_{71} and X_{72} are a hydrogen atom and an alkyl straight chain with 1 to 6 carbon atoms, respectively, and R_{71-74} are each a hydrogen atom. Also, the reference discloses in paragraphs 0045 and 0046 that the organic luminescent

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element comprises a substrate with the anode formed on the substrate as per instant claims 17-18.

Paragraph 0040 of the Japanese reference discloses that the organic luminescent element can comprise at least one luminous layer as per instant claim 19. In paragraph 0041, the reference discloses that it is desirable for the organic luminescent element to have a hole transportation component, a luminescence component and an electron transportation component as per instant claim 20. Instant claims 16 and 18 recite that the compound is **capable of** emitting white light. The Japanese reference discloses the same compounds as the instant claims. No patentable weight is given to the functional language “capable of emitting white light”. The Japanese reference and the instant claims both disclose the same organic electroluminescent element comprising the same compound. Claims 21-24 are product-by-process claims. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. See MPEP 2113. The manner in which the light-emitting layer is prepared does not make the light-emitting layer of the Japanese reference different from the light emitting layer as instantly claimed. Both the Japanese reference and the instant invention claim a light-emitting layer comprising a compound such as formula 11.

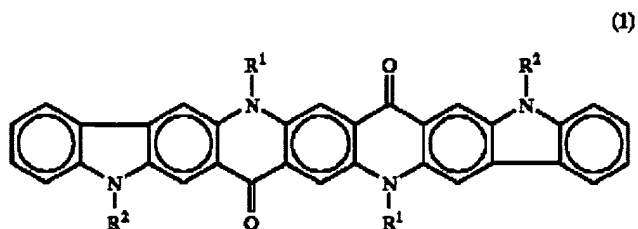
6. Claim 2 is allowed. The prior art does not provide for a luminescent compound capable of emitting white light that has a structure represent by formula (2):



wherein R^1 is a hydrogen atom, an alkyl group, or an aryl or arylalkyl group that may have at least one substituent, wherein two R^1 's may be the same or different from each other; each of R^3 and R^4 is an alkyl group, or an aryl or arylalkyl group that may have at least one substituent, wherein R^3 and R^4 may be the same or different from each other; and two R^3 's may be the same or different, and two R^4 's may be the same or different, and wherein the luminescent compound emits white light upon an application of electromagnetic energy.

7. Claims 25-32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not provide for the recited layered article comprising at least one luminescent compound selected from the group consisting of

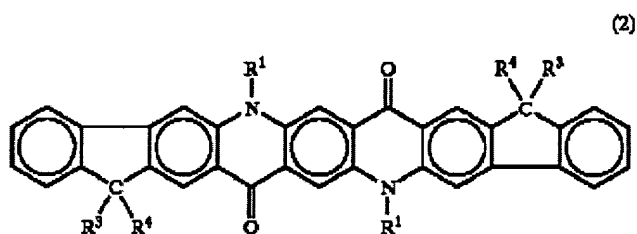
(A) a luminescent compound capable of emitting white light that has a structure represented by formula (1)



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wherein R^1 is a hydrogen atom, alkyl group, or an aryl or alkyl aryl group that may have least one substituent, wherein two R^1 's may be the same or different from each other; R^2 is a hydrogen atom, alkyl group, or an aryl or alkyl aryl group that may have least one substituent, wherein two R^2 's may be the same or different from each other; and R^1 and R^2 may be the same or different from each other, and

(B) a luminescent compound capable of emitting white light that has a structure represented by formula (2)



wherein R^1 is a hydrogen atom, alkyl group, or an aryl or alkyl aryl group that may have least one substituent, wherein two R^1 's may be the same or different from each other; each of R^3 and R^4 is a hydrogen atom, an alkyl group, or an aryl or alkyl aryl group that may have at least one substituent, wherein R^3 and R^4 may be the same or different from each other; and two R^3 's may be the same or different, and two R^4 's may be the same or different, further including the layered article having a planar or tubular shape.

Response to Arguments

8. Applicant's arguments filed October 21, 2005 have been fully considered but they are not persuasive. Applicant argues that Japanese reference 04-224579 does not teach or suggest instant claim 1. Japanese reference 04-224579 reads on the instant claims when the luminescent compound is formula 1-G and Y_{72} and Y_{71} are a hydrogen atom and an alkyl straight chain with 1 to 8 carbon atoms, respectively; X_{71} and X_{72} are a hydrogen atom and an alkyl straight chain with 1 to 6 carbon atoms, respectively, and R_{71-74} are each a hydrogen atom. Applicant argues that Japanese reference 04-224579 does not disclose that the compound emits white light upon an application of electromagnetic energy. The Japanese 04-22579 reference has the same luminescent compound as in the present application. Therefore, it would be expected that the luminescent compound (1-G) of the Japanese 04-22579 emit the same white light upon an application of electromagnetic energy.

Applicant argues that the luminescent compound(s) of Japanese reference 11-087059 do not emit white light. Instant claim 16 recites a luminescent compound (A) **capable** of emitting white light. Japanese reference 11-087059 discloses the same compound(s) as in the present claims. The phrase "capable of emitting white light" does not provide any patentable weight to the claim. Also, both the instant application and Japanese reference 11-087059 have the same luminescent compound(s). Therefore, it would be expected that the luminescent compounds of the Japanese reference emit white light. The rejections are maintained.


9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Camie S. Thompson whose telephone number is (571) 272-1530. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena L Dye, can be reached at (571) 272-3186. The fax phone number for the Group is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


RENA DYE
SUPERVISORY PATENT EXAMINER
A.U. 1774 1/20/04